



A new nexus in Austrian education: Teacher lovingkindness-compassion meets teacher perceived positivity resonance

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ABSTRACT

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Teacher-student relationships are fundamental to successful educational endeavors, yet little attention has been given to teachers' mental states that promote a strong sense of connectedness. This study aims to examine the relationship between teacher lovingkindness and compassion and teachers' perceived positivity resonance, while also assessing the psychometric properties of the Teacher Lovingkindness-Compassion Scale (TLKC). A quantitative cross-sectional study was conducted with a sample of 321 Austrian school teachers from all levels of public education. Data collected online were analyzed using Exploratory Factor Analysis and Pearson product-moment correlation analysis. The results of the EFA revealed a four-factor model for the TLKC scale: (a) Teacher Lovingkindness for Students (TLKS); (b) Teacher Compassion for Students (TCS); (c) Teacher Sense of Relatedness (TSR); and (d) Teacher Self-Lovingkindness (TSLK). Additionally, the Pearson correlation analysis showed a significant positive relationship between teacher lovingkindness and compassion and perceived positivity resonance. All four factors of teacher lovingkindness and compassion were positively and significantly correlated with perceived positivity resonance. This study emphasizes the important role of lovingkindness and compassion in fostering teachers' sense of connectedness. Practical implications, such as developing and cultivating teachers' lovingkindness and compassion through training programs, are discussed.

Contribution/Originality: The originality of this paper lies in examining the relationship between teacher lovingkindness and compassion and teachers' sense of connectedness from the perspective of teacher-perceived positivity resonance. It uniquely analyzes the four-factor model of the Teacher Lovingkindness-Compassion Scale within the Austrian education context.

1. INTRODUCTION

Across all spiritual and religious traditions, two fundamental human qualities consistently emerge as highly esteemed ethical virtues: lovingkindness and compassion. These values, universally recognized in Eastern and Western traditions, have garnered increasing attention within the scientific community in recent years (Kirby & Gilbert, 2017). Scholars advocate for the integration of lovingkindness and compassion as core principles within 21st-century educational frameworks (Coles, 2015). Research shows that fostering these values in schools enhances student academic engagement (Datu & Park, 2019), improves teacher engagement (Eldor & Shoshani, 2016) and teaching practices (Hwang, Bartlett, Greben, & Hand, 2017), and helps teachers sustain emotional support for students throughout the academic year (Jennings et al., 2017).

Teaching is fundamentally a relational practice, whereby the science of learning and development underscores the positive impact of a warm, caring, and supportive student-teacher relationship on academic performance, as well as social and motivational outcomes (Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2020). The concept of caring in education is well-established (Noddings, 2013) and remains central to teaching, manifesting through kindness, affection, and empathy toward students (Eldor & Shoshani, 2016). Empirical research supports this idea, showing that high-quality, supportive teacher-student relationships positively correlate with student motivation (Dennie, Acharya, Greer, & Bryant, 2019; Havik & Westergård, 2020; Roorda, Jak, Zee, Oort, & Koomen, 2017). Researchers have therefore emphasized the need for further investigation into teachers' emotional involvement and the affective states that foster high-quality interpersonal connections with students (Virat, Trouillet, & Favre, 2020; Wentzel, 2016). This study responds to this call by exploring teachers' mental states, conceptualized as lovingkindness and compassion. Specifically, it addresses the following question: Is teachers' lovingkindness and compassion related to teachers' sense of connectedness in the classroom?

This study investigates teachers' sense of connectedness by analysing the micro-level dynamics of teacher-student relationships, focusing on moments of high-quality interpersonal connection. These moments are defined as the building blocks of relationships (Henry & Thorsen, 2018; Korthagen, Attema-Noordewier, & Zwart, 2014) as they are pivotal towards establishing stable and positive relationships. In this study, teachers' sense of connectivity is defined by Fredrickson's (2016) concept of "positivity resonance". The key element of this concept is the shared emotional experience among interaction partners. The study's novelty lies in examining teacher-perceived positivity resonance, explicitly assessing the extent to which teachers perceive that students share their affective experiences.

Studies in contemplative research have revealed that loving-kindness meditation (Metta) is related to greater social connectedness and positive emotions. (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; He et al., 2015; Uchino et al., 2016). Based on this evidence, it is hypothesized that teacher lovingkindness and compassion are correlated with teachers' sense of social connectedness in the context of classroom interactions. Nonetheless, the lack of a specific instrument to measure teachers' lovingkindness and compassion has prevented testing this hypothesis. This paper addresses this gap by (1) examining the factorial structure of a newly adapted Teacher Lovingkindness-Compassion Scale (TLKC-Scale) within the Austrian educational context and (2) assessing the relationship between teacher lovingkindness and compassion and teachers' perceived positivity resonance.

2. THEORY AND CONCEPTS

This section aims to clarify the underlying theories of the two main components of this study: lovingkindness, compassion, and perceived positivity resonance. It also offers a thorough summary of the literature pertinent to these concepts.

2.1. Lovingkindness-Compassion

By first discussing compassion, a subject prevalent in both modern religious practices and ancient spiritual traditions (Goetz, Keltner, & Simon-Thomas, 2010; Kirby & Gilbert, 2017), this section seeks to define the concepts of lovingkindness and compassion. The scientific community is divided on the exact definition of compassion, despite its widespread use (Strauss et al., 2016). According to different definitions, compassion can be viewed as a motivational system (Gilbert, 2014), a singular emotional experience (Goetz et al., 2010), or a more intricate, multifaceted construct (Jazaieri et al., 2013; Strauss et al., 2016). In contrast to compassion for others, the concept of self-compassion has been developed, whereby the concept of self-compassion can be regarded as foundational for developing compassion for others (Neff, 2003). Central to all these definitions, however, is the notion of suffering. The recognition and conscious awareness of another's suffering evoke compassion and subsequently motivate a

desire to alleviate that suffering. Thus, compassion is inherently action-oriented, as it entails a moral imperative to act (Coles, 2015).

Despite its ability to provide a more thorough understanding of lovingkindness and compassion, the Buddhist perspective has drawn less attention among the many accepted definitions of compassion (Cho et al., 2018). Since this approach is consistent with the larger theoretical framework of pedagogical caring (Noddings, 2013), it may be particularly valuable in examining lovingkindness-compassion within the educational system.

The definitions of compassion and lovingkindness used in this paper are based on the Theravada Buddhist paradigm, which holds that lovingkindness and compassion are components of the four immeasurable states of mind. These four "sublime abidings" or brahmaviharas include lovingkindness (metta), compassion (karuna), sympathetic joy (mudita), and equanimity (upekkha). They are immeasurable since the duration or the object of practicing and cultivating these states of mind are not restricted or limited. Emerging into and embracing these states of mind is an ever-increasing practice in a limitless process (Heim, 2015).

Compassion and lovingkindness are two different yet related concepts. Lovingkindness focuses on the goal of happiness for everyone and entails being kind and considerate to oneself and others. Compassion, in contrast, focuses on acknowledging the pain or the suffering of others and the desire to alleviate it (Buddhaghosa, 2020; Cho et al., 2018). According to Cho et al. (2018), compassion and lovingkindness are complex concepts that reflect the Buddhist interconnectivity concept rather than being simply the sum of these two components. Therefore, the emphasis shifts from an individualistic idea of isolation to one of interdependence and reciprocal relationships with others, highlighting the shared nature of the human condition.

In the educational setting, teachers are known to provide emotional support and participation that are marked by sincere care and respect for each individual student (Hamre et al., 2013; Pianta, Hamre, & Allen, 2012; Ruzek et al., 2016). Recent research, however, indicates that high levels of emotional involvement and pedagogical care may be associated with burnout or occupational stress (Gkonou & Miller, 2019). However, a different perspective is provided to teachers by an approach based on the Buddhist conceptualization of lovingkindness and compassion, which recognizes the interdependence of the human condition as well as the universality of the human experience. This perspective encourages teachers to perceive difficult circumstances as temporary and dynamic rather than permanent or unalterable.

Furthermore, this approach is unique because it incorporates warmth, tenderness, and care toward both students and oneself. To promote a balance between caring for others and oneself, a teacher's lovingkindness and compassion go beyond external concern for students to encompass interior self-awareness, acceptance, and self-compassion.

2.2. Perceived Positivity Resonance

Based on Fredrickson (2016) theory of positivity resonance, perceived positivity resonance (PPR) is an emerging concept in positive psychology. This theory defines positivity resonance as moments of high-quality interpersonal connection characterized by sharing positive affect, mutual care and concern, and a sense of synchronicity among interaction partners. According to Fredrickson (2016), positivity resonance encompasses both the individual's emotional experience and the sharing of emotional experiences that create a strong sense of connection. It occurs when individuals engage in meaningful interactions that deepen their emotional experiences and establish a dynamic in which both interacting partners feel uplifted and mutually supported.

The uniqueness of perceived positivity resonance (PPR) lies in its bidirectional measurement of affective experience, as it extends beyond the individual's internal emotional states. Since PPR encompasses both an individual's internal affective experience and their evaluation of how much of this experience is shared with their interaction partners, it emphasizes the relational component of emotional connectedness (Major, Le Nguyen, Lundberg, & Fredrickson, 2018).

This study explicitly focuses on teachers' perceptions of perceived positivity resonance within classroom interactions. It investigates the extent to which teachers perceive that their students share their affective experiences. This examination represents a novel approach to understanding the subtleties of teacher-student interpersonal connections, contributing to an alternative perspective on teacher-student relationships.

According to Korthagen et al. (2014) the teacher-student relationship is shaped and defined over time by the accumulation of multiple momentary connections between the two parties. Understanding that relationships between students and teachers are formed through in-person interactions, micro-moments of positivity resonance are crucial to the development and enhancement of these relationships. The quality of teacher-student relationships is influenced by moments of interaction characterized by shared positive affect, mutual care, and synchrony, and it can be enhanced when teachers perceive and feel that their students reciprocate their positive emotions, care, and concern. In the classroom, this reciprocal sharing of affect fosters a sense of community and belonging, as well as the development of rapport and trust.

Perceived positivity resonance arises in real time and is characterized by eye contact, synchronized facial expressions, reciprocal emotional expressions, or shared laughter (Major et al., 2018). Classroom interactions provide an environment conducive to establishing this real-time sensory connection since both teachers and students have the opportunity to engage in reciprocal emotional experiences in such settings.

To measure perceived positivity resonance in a specific classroom episode, Major et al. (2018) recommended using the Event Reconstruction Method (Schwarz, Kahneman, & Xu, 2009). This approach allows for an examination of perceived positivity resonance at the episodic level, specifically focusing on the most recent class conducted by the teacher. Teachers were prompted to reflect on the details of this recent class, which helps reduce the likelihood of focusing solely on particularly memorable or prototypical interactions from different classroom situations. This method minimizes the potential for social desirability and self-presentation biases compared to more general self-reports regarding teacher-student relationships throughout the school year.

3. METHODOLOGY

The research methodology of this quantitative study employs a correlational, cross-sectional research design. To identify the underlying factors of the adapted instrument measuring teacher lovingkindness and compassion, exploratory factor analysis (EFA) was conducted. Additionally, the correlational design is most suitable for exploring the relationship between the two variables: teacher lovingkindness and compassion, and teacher perceived positivity resonance, since it examines the strength and direction of the relationship between the two variables without manipulating them. Therefore, the proposed hypothesis regarding the relationship between TLKC and TPPR was tested using the Pearson correlation method.

3.1. Participants

Participants included 321 Austrian school teachers (260 female, 61 male) from different public schools, primarily located in the Vorarlberg region (Western Austria) and in Graz, the second-largest city after Vienna. The mean age of the teachers was 45.06 years ($SD = 11.01$). Nearly the same percentage of teachers in this survey taught at the primary level (32.1%) and the lower secondary level in secondary schools (31.5%). Academic secondary schools accounted for 10.0%, while 19.0% of teachers taught in vocational colleges. A small percentage of teachers taught in pedagogical colleges (6.0%) and special schools (3.4%). Most teachers (64.8%) had more than ten years of teaching experience, while an almost equal percentage had less than five years (16.2%) and between six to ten years (19.0%) of experience. Less than a third of the teachers (29.0%) held a bachelor's degree, and 18.7% held a master's degree. Only 5.9% of teachers held a PhD degree, while nearly half (46.4%) reported other degrees and qualifications. More than half of the teacher participants (54.5%) had no meditation experience, 21.8% had meditated

for more than five years, 15.0% had meditated for less than one year, and only 8.4% fell within the middle range of meditation duration, between two and five years.

4. MEASURES

4.1. Teacher Lovingkindness-Compassion – Scale

The Teacher Lovingkindness-Compassion Scale (TLKC-Scale) has been developed by adapting the Lovingkindness-Compassion Scale (Cho et al., 2018) and the French adaptation of the compassionate love for teachers (Virat et al., 2020). The LKC-Scale (Cho et al., 2018) is based on the Buddhist theory of the four immeasurable states of mind, which underpinned the concept of teacher lovingkindness-compassion in this study as well. The French adaptation of the compassionate love for teachers measures the dimension of sensibility and sacrifice within the educational context, specifically as a characteristic of the teacher's emotional involvement with students (Virat et al., 2020).

The Teacher Lovingkindness-Compassion Scale had 33 items in the initial phase before conducting the EFA, rating participants' statements on a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). Among the 33 items, 25 were positively worded, while eight items were negatively worded.

4.2. Teacher Perceived Positivity Resonance – Scale

Teacher Perceived Positivity Resonance (TPPR) is adopted from the Perceived Positivity Resonance Scale (Major et al., 2018) and consists of seven items. The original scale has been newly developed and is the only measure of perceived positivity resonance that captures the perception of momentary shared experiences during interpersonal connections, characterized by shared positive affect, mutual care and concern, and behavioral and biological synchronicity. The PPR scale has undergone comprehensive psychometric testing, ensuring its content validity. Findings from multilevel exploratory and confirmatory factor analyses suggest that the seven-item perceived positivity resonance scale is characterized by a single factor. Major et al. (2018) confirmed in their study that the seven items are suitable for measuring perceived positivity resonance at the episode level. The calculated mean across the seven items indicates the episode level of perceived positivity resonance. At the episodic level, participants were asked to indicate the proportion of time (from 0% to 100%) they experienced what the seven items described for a specific episode. In the present study, the TPPR scale used the existing items of the Perceived Positivity Resonance Scale, adding only the words *teacher* and *students* to reflect the context of the current study. The seven items were otherwise adopted verbatim from the original scale.

For both questionnaires, translation into German was required for the population of this study. The translation was based on the forward and backward method, emphasizing cross-cultural and conceptual translation (Maneesriwongul & Dixon, 2004). The translator experts ensured that the meaning of the original English version was preserved; however, they adapted it to the Austrian cultural context without modifying the subtle psychological nuances of the items. Austrian school teachers and education experts conducted the face validity of both questionnaires, and a panel of international experts was consulted to ensure the content validity of the TLKC-Scale.

Participation in the online survey was entirely voluntary, ensuring that individuals could choose to engage without any form of coercion or obligation. Moreover, the survey was designed to uphold strict ethical guidelines. The online survey respected the participants' anonymity throughout the process, and the participants retained the right to withdraw from the survey at any point without facing any adverse consequences.

5. RESULTS

The Parallel Analysis method using the online software for PA (www.statatoddo.com) was used to determine the number of factors to be retained in EFA, and it suggested a four-factor model for all 33 items included in the

TLKC-Scale. The eigenvalue for the fourth extracted factor was nearly equal to the eigenvalue that could be expected by chance ($\lambda = 1.498$). The results indicated that only four factors have eigenvalues greater than what can be expected by chance. Therefore, based on this analysis, a four-factor model is proposed, and in the EFA, the number of extracted components was set to four factors. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.854, and the Bartlett's test of sphericity was significant ($\chi^2 = 3162.914$, $p < 0.05$). After the Varimax rotation, the results indicated that the four factors explained 40.5% of the total variance. Several criteria for item retention after the EFA were employed to determine the factor structure. Items loading less than .30 were excluded, and items with cross-loadings greater than .10 were selected. Finally, the inclusion of items in the respective factors must be supported by the Buddhist understanding of loving-kindness and compassion, reflecting the underlying concept of interconnectedness or connection with others.

Table 1 presents the results of the EFA, indicating the structure and pattern coefficients of the four factors. The initial scale, consisting of 33 items, was a three-factor model: (a) Teacher Lovingkindness subscale (TLK), (b) Teacher Compassion subscale (TC), and (c) Teacher Self-Centeredness subscale (TSC). However, the EFA results indicated a four-factor model: (a) Teacher Lovingkindness for Students (TLKS); (b) Teacher Compassion for Students (TCS); (c) Teacher Sense of Relatedness (TSR); and (d) Teacher Self-Lovingkindness (TSLK).

Table 1. Structure coefficients of the four-factor EFA.

Items		Pattern coefficients			
		Factor 1	Factor 2	Factor 3	Factor 4
Initial		TLKS	TCS	TSR	TSLK
Scale					
TLK6	I pay attention to the well-being of my students.	0.661			
TLK7	I like to help students to enrich their lives.	0.638			
TLK8	I care about my students as individuals.	0.628			
TLK4	I want to see my students being happy in the class.	0.614			
TLK5	I show students that I care about them.	0.586			
TC2	I wish all my students to be released from their suffering.	0.575			
TLK9	I feel warmhearted toward all my students.	0.473			
TC11	I am particularly drawn to helping challenging students.		0.672		
TC4	I feel the urge to attend to my challenging students.		0.622		
TC1	I feel the need to support my students who are facing personal problems.		0.591		
TC3	I feel the need to reach out to students facing unrelated school issues.		0.565		
TC12	I find it fulfilling to help my students.		0.541		
TSC4r	I do not pay attention to students' problems unless they are related to my teaching.		0.513		
TSC7r	Some students' problems are their own concern and have nothing to do with me.		0.472		
TSC3r	I build strong relationships with my students, but only if necessary.		0.448		
TSC8	I feel connected to all students that I encounter.			0.654	
TSC6	I believe that all living things are connected to one another.			0.605	
TSC9	I can relate easily to students' goals and ambitions.			0.593	
TC9	If a student hurts me, I try to take his or her perspective.			0.571	
TC7	I try to understand my students rather than judge their actions.			0.53	

Items		Pattern coefficients			
		Factor 1	Factor 2	Factor 3	Factor 4
Initial		TLKS	TCS	TSR	TSLK
TC8	I help my disengaged students who are facing academic difficulties.			0.441	
TLK11r	Challenging students disturb me.				0.658
TSC2r	I engage more with students who respond positively to my teaching.				0.621
TSC1r	With some students I do not want to get involved.				0.612
TLK10r	I feel jealous of teachers who are in any way better than me.				0.503
TLK2r	I tend not to give my attention to challenging students.				0.499
TLK1	As a teacher I feel composed.				0.469
TLK12	As a teacher I am fine just the way I am.				0.42
TLK3	I am grateful for all the students I teach.				0.411

Note: r = Reversed item; TLK-teacher lovingkindness; TC-teacher compassion; TSC-teacher self-centeredness; TLKS-teacher lovingkindness for students; TCS-teacher compassion for students; TSR-teacher sense of relatedness; TSLK-teacher self lovingkindness.

From the initial 33 items, two items originally belonging to the TC dimension—TC5: “I am sensitive to students whose hearts are wounded” and TC6: “I want to ensure that my teaching does not cause learners any suffering”—and one item from the initial TSC scale, TSC5: “Even though it takes a lot of time, all my students deserve my help and support,” had to be excluded from these subscales due to low factor loadings. Additionally, one item from the TC dimension, TC10: “I am sensitive to challenging students,” was excluded because it correlated with the teacher self-centeredness (TSC) factor.

The third factor, including six items, has been renamed to Teacher Sense of Relatedness (TSR) based on the construct that appears to measure it. Teacher Sense of Relatedness is the opposite of self-centeredness, implying the universality of the shared human condition. Therefore, all the items are positively worded and have accepted values, and none of the items are correlated with another factor.

The eigenvalue of each scale and the percentage of the variance as a result of the EFA are presented in Table 2.

Table 2. Total variance explained by the EFA.

Factor	Extraction sums of squared loadings		
	Eigenvalue	Percentage of variance	Cumulative percentage
Teacher lovingkindness for students (TLKS)	3.974	12.043	12.043
Teacher compassion for students (TCS)	3.434	10.407	22.450
Teacher sense of relatedness (TSR)	3.025	9.166	31.616
Teacher self lovingkindness (TSLK)	2.932	8.885	40.501

Note: Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization. Rotation converged in 5 iterations.

All four factors of the TLKC-Scale demonstrated an acceptable level of internal consistency (TSLK: $\alpha = 0.68$; TLKS: $\alpha = 0.67$; TCS: $\alpha = 0.75$; TSR: $\alpha = 0.67$). The teacher perception of positivity resonance instrument was found to be highly reliable (7 items: $\alpha = 0.88$).

The Pearson product-moment correlation method was employed to examine the predictive validity of the TLKC-Scale, and the bivariate linear relationship between TLKC and TPPR was investigated. The Pearson correlation coefficient r , which can only have values from -1 to +1, was calculated, and Cohen’s interpretation of the strength of the relationship between the two variables was applied (Cohen, 2013). The significance of the relationship was determined by the p-value, which was set at 0.05 for this analysis. Pearson’s product-moment correlations analyses assessing the predictive validity of the TLKC-Scale are presented in Table 3.

Table 3. Predictive validity of TLKC new subscales with TPRR.

Factor	Teacher perceived positivity resonance (TPPR)
Teacher lovingkindness for students (TLKS)	0.405**
Teacher compassion for students (TCS)	0.260**
Teacher sense of relatedness (TSR)	0.357**
Teacher self lovingkindness (TSLK)	0.454**

Note: ** Correlation is significant at the 0.01 level (2-tailed).

All four factors were significantly correlated with TPRR. However, the strength of the correlation was in the small to moderate range (Cohen, 2013). The lowest level of correlation was between TCS and TPRR ($r = .260$, $p < 0.001$), and the highest level in this study was indicated by the correlation between TSLK and TPRR ($r = .454$, $p < 0.001$). Overall, these findings support the predictive validity of TLKC, since all factors are positively and significantly correlated with TPRR.

6. DISCUSSION

The current study aimed to test the proposed relationship between teacher lovingkindness and compassion and teacher-perceived positivity resonance. Due to the absence of an instrument for measuring teacher lovingkindness and compassion, the study first identified the factorial structure of the TLKC-Scale. While a three-factor model was hypothesized, exploratory factor analysis (EFA) revealed four dimensions. The study confirmed a significant positive correlation between teacher lovingkindness and compassion and teacher-perceived positivity resonance.

6.1. Dimensions of TLKC – Scale

Exploratory factor analysis suggested a four-structure solution for the initial 33 items of the TLKC-Scale: (a) Teacher Lovingkindness for Students (TLKS); (b) Teacher Compassion for Students (TCS); (c) Teacher Sense of Relatedness (TSR); (d) Teacher Self-Lovingkindness (TSLK). An analysis of the EFA results raises two essential discussion points.

Firstly, after the exploratory factor analysis (EFA), some items were reassigned to different subscales than originally intended. Specifically, several items that were part of the teacher self-centeredness subscale (TSC) were included in the teacher compassion (TC) subscale or the teacher self-loving kindness (TSLK) subscale. This shift may be justified by the inherent altruism of the teaching profession, which emphasizes commitment to public service and minimizes self-interest (MacBeath, 2019). As a result, the items from the original TSC and TC dimensions merged into a new factor called Teacher Sense of Relatedness. This dimension includes six items that assess teachers' ability to connect with students in a non-judgmental manner, allowing for a clearer understanding of student behavior without bias or preconceptions. Although the name of this dimension has been changed, the theoretical concept defining this dimension is still based on the Buddhist concept of the universality of a shared human condition, which, in the initial scale (Cho et al., 2018), was the opposite concept of self-centeredness. Cultivating and internalizing an understanding of the universal human condition that we all share diminishes the feeling of separation and enables individuals to relate to each other with warmth and kindness (Jinpa, 2015). These findings support the argument that the lovingkindness-compassion scale is a suitable instrument for investigating connection with others (Cho et al., 2018).

A second point of discussion based on the EFA findings is the essential distinction between teacher self-loving kindness and teacher loving kindness for students. These findings support the Buddhist understanding of *Metta* or loving kindness, which is perceived to be the foundation for the development of other noble qualities. The boundless kindness directed towards oneself and others enables individuals to cultivate boundless compassion (Jinpa, 2015). The distinction between the two dimensions of teacher lovingkindness for oneself and for the students resulted in the reordering of TLK items. Drawing on the Buddhist perspective of *Metta* supported by the EFA findings, it can be assumed that teachers who adhere to a higher level of lovingkindness have a more composed attitude towards

themselves and perceive their own shortcomings and challenging students or classroom situations not with a sense of aversion or as obstacles that must be either fixed or overcome, but rather as terrain in which teachers can cultivate and grow their own attitude towards lovingkindness and self-acceptance.

6.2. Relationship between TLKC and TPPR

As hypothesized, the findings from this research indicate a positive and significant relationship between TLKC and TPPR. This suggests that teacher lovingkindness and compassion are prominent factors influencing how teachers perceive positive resonance in student interactions. It implies that nurturing a compassionate mental state and warmheartedness towards oneself and students can significantly enhance teachers' openness and their sense of emotional connection and attunement with students.

These findings align with previous research linking lovingkindness-compassion to interconnectedness (Fredrickson et al., 2008; Uchino et al., 2016). Uchino et al. (2016) showed that lovingkindness meditation enhances perceived social support, fostering social connectedness and mutual care. Similarly, Fredrickson et al. (2008) found that Lovingkindness Meditation (LKM) strengthens interpersonal connectedness.

The strong correlation between TLKC and TPPR supports the link between lovingkindness, compassion, and high-quality interpersonal connections. Wishing to benefit others fosters prosocial interest, shifting focus from self to others (Jinpa, 2015; Kernochan, McCormick, & White, 2007). Buddhist psychology emphasizes the interdependence of our happiness with that of others and suggests that caring for others fosters personal well-being (Joshanloo, 2014). Empirical studies showed that the fear of being compassionate increases the level of anxiety, stress and depression (Gilbert, McEwan, Matos, & Ravis, 2011), whereas a loving, warm and compassionate attitude towards others increases interpersonal connectedness and well-being (Fredrickson et al., 2008). Within the educational context, one qualitative study revealed that teachers in the respective study who were mindful and adhered to a more compassionate and loving attitude could create, along with the students, a learner community characterized by an "emotional and intellectual experience of interconnectedness" (Kernochan et al., 2007).

The empirical link between lovingkindness-compassion and perceived positivity resonance aligns with Buddhist teachings (Buddhaghosa, 2020; Jinpa, 2015). Compassion fosters interpersonal connectedness, driving pro-social behaviors and the motivation to alleviate suffering. Indeed, the motivation to alleviate suffering emerges from genuine connections with others. It reflects the Buddhist concept of interconnectedness, emphasizing the unity of all living beings.

7. IMPLICATIONS

This study emphasizes the importance of cultivating mental states that enable teachers to foster a sense of connectedness with students. A loving and compassionate attitude encourages teachers to interact with students in a non-judgmental manner. By relating to students based on shared humanity, teachers become self-aware and develop an awareness of present moments of high interpersonal connection. Recognizing these subtle moments of interconnectedness fosters a deeper appreciation for meaningful connections, which subsequently leads to the cultivation of loving-kindness and compassion.

These results highlight the significance of teacher-perceived positivity resonance by focusing on teachers' perceptions of shared emotional experiences with their students. Hagenauer, Hascher, and Volet (2015) demonstrated in a study conducted within the Austrian school context that the strongest predictor of teacher joy was the sense of closeness with students. Conversely, teachers experiencing negative feelings during the teaching process could develop a sense of disconnection or depersonalization in the long run, negatively impacting teaching quality and deteriorating the teacher-student relationship (Durr, Chang, & Carson, 2014). These insights emphasize that fostering positive emotional connections in the classroom is crucial for enhancing teacher well-being and sustaining effective teacher-student relationships.

Teacher loving-kindness and compassion are innate abilities that can be cultivated through teacher training programs (Jennings et al., 2017). In this regard, this study supports the implementation of contemplative teaching programs to benefit teachers and students. The development of social-emotional competence should be considered not only as a desirable and beneficial teacher training program for in-service teachers but also as an established component of teacher education. Considering the vision of education to prepare the future generation with the necessary skills to create a sustainable life, it seems important to address values such as loving-kindness and compassion within the educational context. Given that teacher and student psychology are interconnected (Mercer & Kostoulas, 2018), when considering the implementation of secular programs for students that promote such ethical values, teachers, as frontline participants in the education process, could be supported in cultivating and embracing practices in their immediate interactions with students. These practices should exemplify an attitude and behavior characterized by lovingkindness and compassion.

8. LIMITATIONS AND FUTURE DIRECTIONS

The correlational nature of this study precludes causal interpretation. An experimental study in which teachers learn to cultivate lovingkindness and compassion could examine the effect of such training on the level of teacher lovingkindness and compassion and determine whether lovingkindness and compassion influence teacher and student perceptions of high-quality interpersonal connections.

The present study is cross-sectional. However, a cross-level study will also help investigate whether TLKC might predict student-perceived positivity resonance. Research revealed a discrepancy between teacher and student perceptions of their interpersonal interactions (Wentzel, 2016). Researchers have already voiced the necessity of obtaining self-reports of perceived positive resonance from various interaction partners (Major et al., 2018).

Another limitation of the present study that could be addressed in future research is the development of non-self-report assessments to investigate TLKC and PPR in real-time classroom interactions. Such research could provide key indicators for assessing a loving-kindness and compassionate attitude based on teacher behavior in the classroom, such as actions and reactions to challenging students or situations, creating space for cultivating loving-kindness and compassion amid challenging circumstances. Future studies could examine the impact of a loving-kindness attitude and compassionate teacher behavior on perceived positivity resonance, whereby behavioral indices could also be assessed. A recent study investigating the association between positivity resonance and long-term marital satisfaction used behavioral indices of positivity resonance (Otero et al., 2020).

One priority for future research is to determine whether TLKC is negatively correlated with teacher burnout or teacher compassion fatigue. The results are important to support the possible implementation of teacher training programs to cultivate loving-kindness and compassion as measures to buffer teacher stress and burnout.

Despite the limitations of this study, the loving-kindness and compassion scale could be considered a starting point for examining teachers' states of mind related to positive and high-quality interpersonal connections. Examining teacher-student relationships at the level of moments of high-quality interpersonal interactions might be beneficial for both parties involved, in this case, teachers and students, since PPR has the potential to promote well-being (Fredrickson, 2016). In conclusion, this study contributes to a better understanding of positive education, emphasizing the relevance of teachers' states of mind and the sense of interconnectedness.

9. CONCLUSIONS

This study examined the role of teacher lovingkindness and compassion in fostering teachers' sense of interconnectedness. The noteworthy aspect of the present research is the significant relationship between teacher lovingkindness and compassion and teachers' perception of moments of high-quality interpersonal connections with their students. By embracing compassion, educators can establish enduring and meaningful connections with their students, even in challenging situations. Compassionate educators experience a stronger sense of connectedness

with their students, which helps prevent empathic distress (Yang, Greenstein, Manchanda, Golshirazi, & Yabiku, 2023) and enhances teacher well-being (Talbot & Mercer, 2018). Cultivating lovingkindness and compassion inherently embody a relational essence and foster a sense of belonging, nurturing sincere care for oneself, others, and the broader world.

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